

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

REMARKS

Summary Of The Office Action & Formalities

Claims 1, 3-7, 9-12 and 15-36 are all the claims pending in the application.

Initially, Applicant notes that the Examiner has not returned the Information Disclosure Statement filed on January 20, 2004. Therefore, Applicant requests that the Examiner consider the references listed on the IDS and initial and return the form PTO/SB/08 with the next action.

The prior art rejections are summarized as follows:

1. Claims 1, 4, 5-7, 10-12, 17-26, and 33-36 are rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Chen (USP 6,368,233).

2. Claims 27-29 are rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Peterson (USP 6,339,869).

3. Claims 1, 3-7, 9-12, and 15-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Minabe (USP 5,961,394) in view of Shaw et al. (USP 5,423,535).

4. Claims 30-32 and 34 are rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Galy (USP 5,971,867).

Applicant respectfully traverses.

Claim Rejections - 35 U.S.C. § 102/103

1. Claims 1, 4, 5-7, 10-12, 17-26, and 33-36 Over Chen (USP 6,368,233).

In rejecting claims 1, 4, 5-7, 10-12, 17-26, and 33-36 over Chen (USP 6,368,233), the grounds of rejection state:

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

Chen discloses a wood-type golf club head having a hollow head body comprising: a shaft (not shown but inherent feature of a golf club); and a striking face 62 including a plurality of metal pieces (main piece 62 of titanium and arcuate piece 64 of stainless steel); a crown member 30 including a plurality of pieces (main piece 32 titanium and annular piece 34 stainless steel). With respect to the methods of forging, rolling, plastic forming, post-machining, press forming, and laser welding of the face member, such manufacturing methods are well-known in the golf club art. Alternatively, the recitation of such process limitation does not further add structural limitation to the claimed invention. Note, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even through [sic] the prior product was made by a different process. See *In re Whorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) and *In re Fessmann* 489 F.2d 742, 744, 180 USPQ 324 (CCPA 1974). See MPEP 2113.

Office Action at pages 2-3.

Initially, Applicant again points out that the Examiner improperly applies the law governing product-by-process limitations. Neither *In re Thorpe* nor *In re Fessman* stand for the proposition that product-by-process limitations can be ignored when the product is distinct and nonobvious in view of the prior art. Moreover, as demonstrated below, Chen neither anticipates all the limitations of these claims, nor has the Examiner established that the limitations which are deficient in Chen would have been *prima facie* obvious.

For instance, Chen does not teach or suggest that the main piece and the arcuate piece are metal pieces which “are made of forged or rolled material and appear on the striking face member and are fixed together by laser welding”, as required by claim 1. Similarly, Chen fails to teach or suggest all the limitations of independent claims 7, 21 and 24. For instance, claim 7 recites that the striking face member includes “a portion formed through plastic working of a

RESPONSE UNDER 37 C.F.R. § 1.111

U.S. Appln. No.: 10/000,219

Attorney Docket No.: Q67539

compounded metal plate fabricated through joining a plurality of metal pieces made of forged or rolled material by laser welding”, claim 21 recites that the metal head comprises a plurality of metal pieces on an outside common surface of the head and “fixed together by welding, the welding process resulting in a smooth continuous outside common surface”, and claim 24 recites that the crown member includes a plurality of metal pieces which “appear on an outside surface of the crown member and are fixed together by laser welding.”

To account for the deficient disclosure of Chen, the Examiner apparently contends that the golf club defined by independent claims 1, 7, 21 and 24 is not structurally distinct from the golf club actually disclosed by Chen. However, the Examiner’s rationale clearly suggests that the limitation of laser welding a plurality of metal pieces results in a product having distinct characteristics when compared to the golf club with conventional welding taught by Chen.

As discussed in detail in the Response filed April 14, 2005, by joining the metal pieces together using a *high energy welding*, such as *laser welding*, deterioration of the metal pieces at the welded joint is minimized or eliminated, thereby ensuring a smooth, uninterrupted outer common surface. The compound part is then suitable for post-machining, such as a plastic working. By laser welding pieces to form an outside common surface followed by plastic working, such as press-forming, these pieces provide a very flat and durable member. In comparison, if conventional welding techniques are used to weld pieces together, the resulting compound structure will not have a smooth, uninterrupted surface and would not be as durable. Therefore, one skilled in the art would certainly be capable of analyzing a golf club and determine from its structure whether the club was made in accordance with Applicant’s product-by-process limitations.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

Moreover, the Examiner even acknowledges differences between laser welding and conventional welding. Specifically, the Examiner states:

“Examiner agrees that there [are] several distinct advantages of using laser welding of metal club parts such as small affect heating zone, which minimizes corrosion and cracking, and the precision of laser welding provide a smooth and continuous weld.”

Office Action at page 7.

This statement, however, is fundamentally at odds with the Examiner’s contention that Chen, which mentions nothing about laser welding, anticipates the limitations that the metal pieces are “fixed together by laser welding”. Indeed, the Examiner’s own statement evidences that metal pieces which are fixed together by laser welding provide a golf club with distinct structural features.

In addition, Chen mentions nothing about a portion formed through plastic working or a plurality of metal pieces which are made of a rolled or forged metal, as defined by the claims. Applicant submits that structure defined by these claims is clearly distinct from the golf club head of Chen. Accordingly, Chen can not be properly relied upon to anticipate all the claim limitations of claims independent claims 1, 7, 21 and 24.

With respect to the Examiner’s alternative contention that claims 1, 4, 5-7, 10-12, 17-26, and 33-36 would have been obvious over Chen, Applicant submits that the Examiner has failed to establish *prima facie* obviousness. In rejecting these claims, the Examiner states:

“With respect to the methods of forging, rolling, plastic forming, post-machining, press forming, and laser welding of the face member, such manufacturing methods are well-known in the golf club art.”

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

Office Action at page 3.

However, the Examiner has not provided any actual evidence to support this contention. Rather, the Examiner offers only conclusory statements that the methods are well-known in the art, which is insufficient to establish *prima facie* obviousness. *See, e.g., In re Lee*, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002); *In re Zurko*, 59 U.S.P.Q.2d 1694, 1697 (Fed Cir. 2001) (holding that deficiencies of the cited references cannot be remedied by “general conclusions about what is ‘basic knowledge’ or ‘common sense.’”). Further, as explained in M.P.E.P. § 2144.03, “It is never appropriate to rely solely on ‘common knowledge’ in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based.”

Moreover, what is allegedly well-known at the present time is not germane to the motivation to modify or combine. Rather, the relevant inquiry is whether such a modification would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made. The Examiner has not presented any factual evidence to establish what was “well-known” at the relevant time, nor has the Examiner provided any evidence of a proper motivation to modify the actual disclosure of Chen. The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. *In re Lee* at 1433. Indeed, the unsupported evidence provided by the Examiner strongly suggests impermissible hindsight reasoning, which is clearly improper as a basis for determining obviousness.

Thus, the unsupported allegations presented by the Examiner do not adequately support the conclusion that the limitations, which are clearly deficient in Chen, would have been obvious over Chen’s teaching. Therefore, Applicant submits that the Examiner has failed to establish *prima facie*

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

obviousness with respect to independent claims 1, 7, 21 and 24, and the claims should therefore be allowed. Further, Applicant submits that dependent claims 4-6, 10-12, 17-20, 22-23 25-26, and 33-36 are allowable *at least* by virtue of depending from claims 1, 7, 21 and 24, respectively.

2. Claims 27-29 Over Peterson (USP 6,339,869).

Claim 27 defines a golf club with a side wall member including a plurality of metal pieces “wherein the metal pieces appear on an outside surface of the side wall member and are fixed together by laser welding.” As alleged by the Examiner:

Peterson discloses a wood-type golf club head having a hollow head body (Fig. 1) comprising: a shaft (19); a side wall member including a plurality of pieces (side wall 30 and cap 36).

Office Action at page 3.

This ground of rejection is improper for a number of reasons. Initially, Applicant disagrees that Peterson anticipates all the claim limitations. For instance, Peterson clearly teaches that the cap 36 is *releasably connected* to the skirt 30. (see Peterson at col. 5, line 66 - col. 6, line 5). Moreover, Peterson explicitly states the advantages of this releasable configuration: “Advantageously, *because the cap 36 is not welded to the skirt*, the club head can be finished in any desired manner and then cap 36 closes the interior portion 40 without damaging or marring the finished surface.” (Peterson at col. 6, lines 6-9) (emphasis added). Thus, Peterson does not anticipate the limitations of claim 27, *at least* because the plurality of metal pieces are clearly not welded. Consequently, the plurality of metal pieces could not be “fixed together by laser welding”, as required by the claim.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

Further, Applicant submits that the Examiner has failed to establish *prima facie* obviousness with respect to the rejection of claim 27. Peterson explicitly teaches away from welding the pieces of the side wall member, as evidenced above. Thus, Peterson cannot be properly modified in the manner suggested by the Examiner.

Moreover, the Applicant's above arguments with respect to insufficiency of the unsupported conclusions regarding what is "well-known in the golf club art" are equally applicable to the instant rejection, inasmuch as the Examiner applies the same line of reasoning to the rejection of claim 27. Therefore, Peterson neither anticipates the limitations of claim 27, nor are the limitations of the claim obvious over Peterson.

Accordingly, reconsideration and withdrawal of the rejection of claim 27 is requested. In addition, Applicant submits that claims 28 and 29 are allowable *at least* by virtue of depending from claim 27.

Claim Rejections - 35 U.S.C. § 103

1. Claims 1, 3-7, 9-12, and 15-23 Over Minabe (USP 5,961,394) In View Of Shaw et al. (USP 5,423,535).

In rejecting claims 1, 3-7, 9-12, and 15-23 over Minabe (USP 5,961,394) in view of Shaw et al. (USP 5,423,535), the grounds of rejection state:

Regarding claims 1, 7, and 15-23, Minabe discloses a wood-type, golf club head (Fig. 1) comprising: a face member 12, a shaft 26 attached to metal head 12 wherein the metal head (Figure 1) comprises a body 12 having an opening in which a striking face member 12 is disposed. Minabe fails to disclose the striking face member including a plurality of metal pieces. Shaw

teaches a metal face plate (Col. 2, lines 13-20) can be made of one or more component(s) (Col. 1, lines 42-58 and Figs. 23-26), which are welded together (Col. 4, lines 23-29). Such multi-piece face component(s) provide a golf club with different properties such as weight distribution, friction, spin rates, flexural modulus, resilience, and hardness, and aesthetic appearance (Col. 2, lines 13-17, Col. 2, lines 39-43), Col. 3, lines 35-45). Thus, it would have been obvious in view of Shaw to one having ordinary skill in the art to modify the striking face member of Minabe with a face member with a plurality of pieces as taught by Shaw to gain the above beneficial properties. With respect to the methods of forging, rolling, plastic forming, and laser welding of the face member, such manufacturing methods are well-known in the golf club art. Alternatively, the recitation of such process limitation does not further add structural limitation to the claimed invention. Note, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even through [sic] the prior product was made by a different process. See *In re Whorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) and *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324 (CCPA 1974). See MPEP 2113.

Office Action at pages 4-6.

Initially, Applicant submits that the above arguments with respect to the distinct structural features of laser welding, a portion formed through plastic working, and metal pieces made of forged or rolled material, and the insufficiency of the unsupported conclusions regarding what is “conventional” are equally applicable to the instant grounds of rejection.

Further, the Examiner mischaracterizes the actual disclosure of the Shaw reference. The Examiner states,

“It is submitted that Shaw discloses the ‘preferred’ golf club structure being irons (Col. 1, lines 16-25) but it is not limited to the scope of the invention, which includes wood and/or putter type golf club head. Note the concept is the same whether the feature of the multi-piece components of Shaw are applied to a woods, irons, and/or putter.”

Office Action at page 7.

However, Shaw does not disclose any embodiments other than iron-type golf clubs. The reference does not mention putters, nor does the reference mention wood-type golf clubs. The actual scope of the teaching of Shaw is clearly evidenced by the disclosure of the reference itself. Shaw explicitly states, “An object of the present invention is to improve the performance characteristics of *golf irons*.” (Shaw at col. 1, lines 28-29) (emphasis added). Further, as demonstrated below, there is no rational basis for concluding that Shaw discloses a “concept” which is applicable to anything other than what is actually disclosed in the reference, namely an iron-type golf club. Thus, the Examiner is impermissibly attempting to expand the teaching of the Shaw reference beyond the actual disclosure of the reference itself in order to compensate for deficiencies in the disclosure.

As discussed in the previous Response, the difference between an iron-type golf club and a wood-type golf club is not trivial. For one, as explained in Minabe et al., a wood golf club “has a head formed by welding together shell pieces to predetermined shapes, respectively” (column 1, lines 6-8). An iron golf club has no such shell pieces that define a *hollow cavity*. Accordingly, assembling multiple pieces on a face of a wood involves very different technical constraints that are not present in an iron. For example, the face-plate thickness of iron is thickened due to its weight and shape. Also, since the force on the iron is small when the ball is hit, the face of iron is unlikely to change (*i.e.*, deform). Therefore, as Shaw et al. discloses (*see, e.g.*, col. 4; lines 23-29), it is possible to use all sorts of bonding. Unlike irons, however, the thickness of wood golf club head is relatively thin due to its weight and shape. Also, since the

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

force on the wood is relatively large when the ball is hit, the face of wood is likely to change. This is why strong welding method is important for a wood golf club head. Since the face is thin, it is difficult for an ordinary bonding. Therefore, the characteristics of wood and iron are significantly different, making it difficult, and certainly not obvious, to apply iron multi-piece technology to wood golf club head.

Likewise, the alleged motivation stated by the Examiner fails to account for the different characteristics and performance considerations of iron-type golf clubs versus wood-type golf clubs. Rather, the Examiner contends, "the basic features such as face, sole member, crown and etc. of the wood and the iron are the same." (Office Action at pages 6-7). While wood clubs and iron club may share certain common terminology, the structure and characteristics of these elements are clearly different, which is readily apparent even from the different appearance of such elements as the face, sole member and crown. Moreover, the properties of weight distribution, friction, spin rates, flexural modulus, resilience, hardness and aesthetic appearance differ significantly in iron clubs and wood clubs. The Examiner has not provided a convincing line of reasoning as to how such different properties would be modified so as to be suitable to a wood-type golf club.

Further, Applicant notes that the Examiner's remarks do not address the arguments with respect to the teaching away of Minabe, which were presented in the previous response of April 14, 2005. ("Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it."). MPEP § 707.07(f). As discussed previously, Minabe clearly teaches away from modifying the face, side,

RESPONSE UNDER 37 C.F.R. § 1.111

U.S. Appln. No.: 10/000,219

Attorney Docket No.: Q67539

top, or bottom surface of the golf club to include multiple pieces, as allegedly taught by Shaw. For instance, Minabe explicitly discloses the use of a *single* piece for each surface. *See, In re Hedges*, 228 USPQ 685, 687 (Fed. Cir. 1986) (concluding that prior art references that “teach away” from a claimed invention provide “strong evidence of unobviousness”). *See also* MPEP § 2141 (mandating that “the references must be considered as a whole”). Therefore, the Examiner must consider and confront those passages of Minabe that lead away from the claimed invention.

Accordingly, at least for the above reasons, the Examiner has failed to establish *prima facie* obviousness with respect to the rejection of claims 1, 3-7, 9-12, and 15-23, and allowance of these claims is requested.

Claim Rejections - 35 U.S.C. § 102/103

1. Claims 30-32 And 34 Over Galy (USP 5,971,867).

In rejecting claims 30-32 and 34 over Galy (USP 5,971,867), the grounds of rejection state:

Galy discloses a wood-type golf club head having a hollow head body (Fig. 4) comprising: a shaft (inherent feature of golf club); a sole member including a plurality of pieces (sole plate 11 and arc shape portion 33). With respect to the methods of forging, rolling, and laser welding of the sole member pieces together, such manufacturing methods are well-known in the golf club art. Alternatively, the recitation of such process limitation does not further add structural limitation to the claimed invention. Note, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even through [sic] the prior product was made by a different process. *See In re Whorpe*, 777 F.2d 695, 698, 227 USPQ

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

964, 966 (Fed. Cir. 1985) and *In re Fessmann*, 489 F.2d 742, 744,
180 USPQ 324 (CCPA 1974). See MPEP 2113.

Office Action at page 6.

Claim 30 defines a golf club comprising a sole member which includes a plurality of metal pieces, “wherein the metal pieces appear on an outside surface of the sole member and are fixed together by laser welding.” Further, claim 31 requires that the metal pieces are made of forged or rolled material and claim 32 requires that the sole member is fixed to the opening of the body by welding.

However, Galy does not teach that metal pieces are fixed together by laser welding, nor does Galy teach that the metal pieces are made of forged or rolled material. In rejecting claims 30-32, the Examiner applies the same rationale as in the rejection of claims 1, 4, 5-7, 10-12, 17-26, and 33-36. Thus, Applicant submits that the above arguments with respect to the distinct structural features of laser welding and metal pieces made of forged or rolled material, and the insufficiency of the unsupported conclusions regarding what is “conventional” are equally applicable to the instant grounds of rejection. Accordingly, reconsideration and withdrawal of the rejection of claims 30-32 is requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/000,219
Attorney Docket No.: Q67539

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Respectfully submitted,



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